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NEWS 3 Feb 1 Addition of Machine-Translated Abstracts to CAPlus
NEWS 4 Feb 28 Patent Information Now Searchable in CAOLD
NEWS 5 Mar 20 INPADOC: PRODUCER WARNING ABOUT DATA DELAYS
NEWS 6 Mar 22 NEW FEATURES IN INPADOC - RANGE SEARCHING AND NEW
SDI/UPDATE SEARCH FIELD
NEWS 7 May 1 Beilstein Abstracts on STN - FILE BABS
NEWS 8 May 1 RN CROSSOVER AND ANSWER SIZE LIMITS INCREASED
NEWS 9 May 1 AIDSLINE has been reloaded
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NEWS 11 May 9 Sequence Similarity Batch Search in DGENE
NEWS 12 May 19 Weekly Statistics for New Entries now available
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NEWS 13 May 22 CITED REFERENCES NOW AVAILABLE IN CAPLUS AND CA FILE
NEWS 14 May 22 POSTPROCESSING OF SEARCH RESULTS MAY BE AFFECTED
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REGISTRY, CASREACT, MARPAT, and MARPATPREV
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FILE LAST UPDATED: 13 Jun 2000 (20000613/ED)

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=> s multilayer catalyst or multi layer catalyst

```
62219 MULTILAYER
16688 MULTILAYERS
67877 MULTILAYER
      (MULTILAYER OR MULTILAYERS)
450922 CATALYST
466050 CATALYSTS
570036 CATALYST
      (CATALYST OR CATALYSTS)
  54 MULTILAYER CATALYST
      (MULTILAYER(W)CATALYST)
62195 MULTI
   2 MULTIS
62196 MULTI
      (MULTI OR MULTIS)
731696 LAYER
341659 LAYERS
904162 LAYER
      (LAYER OR LAYERS)
450922 CATALYST
466050 CATALYSTS
570036 CATALYST
      (CATALYST OR CATALYSTS)
  4 MULTI LAYER CATALYST
      (MULTI(W)LAYER(W)CATALYST)
L1      56 MULTILAYER CATALYST OR MULTI LAYER CATALYST
```

=> s fischer tropesch or hydrocarbon synthesis

```
13109 FISCHER
```

```

    16 FISCHERS
  13113 FISCHER
      (FISCHER OR FISCHERS)
    4083 TROPSCH
    4032 FISCHER TROPSCH
      (FISCHER(W)TROPSCH)
  201963 HYDROCARBON
  191949 HYDROCARBONS
  297889 HYDROCARBON
      (HYDROCARBON OR HYDROCARBONS)
  811400 SYNTHESIS
      1 SYNTHESISES
    41064 SYNTHESSES
  834424 SYNTHESIS
      (SYNTHESIS OR SYNTHESISES OR SYNTHESSES)
      964 HYDROCARBON SYNTHESIS
      (HYDROCARBON(W)SYNTHESIS)
L2      4694 FISCHER TROPSCH OR HYDROCARBON SYNTHESIS

=> s l1 and l2

L3      0 L1 AND L2

=> s multilayer? catalyst or multi layer? catalyst

    73949 MULTILAYER?
    450922 CATALYST
    466050 CATALYSTS
    570036 CATALYST
      (CATALYST OR CATALYSTS)
      68 MULTILAYER? CATALYST
      (MULTILAYER?(W)CATALYST)
    62195 MULTI
      2 MULTIS
    62196 MULTI
      (MULTI OR MULTIS)
    926875 LAYER?
    450922 CATALYST
    466050 CATALYSTS
    570036 CATALYST
      (CATALYST OR CATALYSTS)
      5 MULTI LAYER? CATALYST
      (MULTI(W)LAYER?(W)CATALYST)
L4      71 MULTILAYER? CATALYST OR MULTI LAYER? CATALYST

=> d his

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(FILE 'HOME' ENTERED AT 10:07:02 ON 14 JUN 2000)

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FILE 'CAPLUS' ENTERED AT 10:07:31 ON 14 JUN 2000
L1      56 S MULTILAYER CATALYST OR MULTI LAYER CATALYST
L2      4694 S FISCHER TROPSCH OR HYDROCARBON SYNTHESIS
L3      0 S L1 AND L2
L4      71 S MULTILAYER? CATALYST OR MULTI LAYER? CATALYST

=> s l2 and l4

```

L5 0 L2 AND L4

=> s 12 and layer

731696 LAYER
341659 LAYERS
904162 LAYER
 (LAYER OR LAYERS)

L6 94 L2 AND LAYER

=> s 16 and (pore size or porous)

82261 PORE
45000 PORES
110180 PORE
 (PORE OR PORES)
579922 SIZE
76969 SIZES
621765 SIZE
 (SIZE OR SIZES)
22593 PORE SIZE
 (PORE(W) SIZE)

128215 POROUS
L7 3 L6 AND (PORE SIZE OR POROUS)

=> d 17 ibib ab 1-3

L7 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1993:127939 CAPLUS

DOCUMENT NUMBER: 118:127939

TITLE: An Auger electron spectroscopy study of the
activation

of iron **Fischer-Tropsch** catalysts.

II. Carbon monoxide activation

AUTHOR(S): Sault, Allen G.; Datye, Abhaya K.

CORPORATE SOURCE: Fuel Sci. Dep., Sandia Natl. Lab., Albuquerque, NM,
87185, USA

SOURCE: J. Catal. (1993), 140(1), 136-49

CODEN: JCTLA5; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Activation procedures can have a dramatic effect on the activity of Fe-based catalysts for **Fischer-Tropsch** (F-T) synthesis; CO conversion over a 100:3:0.2 (wt.) Fe-Cu-K catalyst can vary nearly by a factor of 3, depending on activation treatment. In contrast, a 100:5:4.4:25 (wt.) Fe-Cu-K-SiO₂ catalyst displays little dependence of F-T activity on activation treatment. An ultra-high vacuum surface anal. chamber coupled to an atm. reactor has been used to measure the surface compn. of these catalysts after activation in CO at 280.degree., while transmission electron microscopy (TEM) and BET surface area measurements have been used to investigate catalyst morphol. CO activation of the latter catalyst at 280.degree. results in partial redn. of Fe to a mixt. of Fe₃O₄ and Fe₃O, and an overall surface compn. very similar to that obtained by H activation at 220 or 280.degree., consistent with the invariance of F-T activity with activation treatment for this catalyst.

Activation of the former catalyst in CO at 280.degree. results in the formation of Fe carbide particles, growth of graphitic carbon (Cg)filaments, and formation of a thick, **porous**, Cg **layer** covering the carbide particles. Differences in F-T activity between the hydrogen- and CO-activated former catalyst are discussed in terms of surface compn. and catalyst morphol. The difference in sensitivity of the two catalysts to activation conditions is related to differences in the extent of redn. of the catalysts.

L7 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1991:125731 CAPLUS

DOCUMENT NUMBER: 114:125731

TITLE: Process for the preparation of surface-impregnated dispersed cobalt metal catalysts

INVENTOR(S): Mauldin, Charles H.; Riley, Kenneth L.

PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA

SOURCE: U.S., 6 pp. Cont.-in-part of U.S. Ser. No. 72,517, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4977126	A	19901211	US 1988-270596	19881114
US 4962078	A	19901009	US 1988-252215	19881003
CA 2012682	AA	19910921	CA 1990-2012682	19900321
AU 623756	B2	19920521	AU 1990-52208	19900327
AU 9052208	A1	19911003		
JP 03293036	A2	19911224	JP 1990-91933	19900406
US 5128377	A	19920707	US 1990-513372	19900423
EP 453674	A1	19911030	EP 1990-304549	19900426
EP 453674	B1	19940629		
R: BE, DE, FR, GB, IT, NL, SE				
AU 634019	B2	19930211	AU 1991-70104	19910131
AU 9170104	A1	19920813		
US 5545674	A	19960813	US 1995-377293	19950124
PRIORITY APPLN. INFO.:				
			US 1987-46649	19870507
			US 1987-72517	19870713
			US 1988-252215	19881003
			US 1989-310258	19890213
			US 1991-667993	19910312
			US 1992-881935	19920511
			US 1993-32916	19930318
			US 1994-243436	19940513

AB A process for the prepn. of **Fischer-Tropsch** catalysts is described in which a catalytically effective amt. of Co is impregnated and dispersed as a film or **layer** on the peripheral outer surface of a particulate **porous** inorg. oxide support, esp. TiO₂. The catalysts are prepd. by spraying a bed of the fluidized particulate support particles with a liq. contg. a dispersed or dissolved Co metal compd. upon the support particles. The operation is performed at specified operating conditions.

L7 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1986:507671 CAPLUS
DOCUMENT NUMBER: 105:107671
TITLE: On-line gas chromatographic analysis of light
Fischer-Tropsch synthesis products
AUTHOR(S): Snel, R.
CORPORATE SOURCE: Chem. Eng. Res. Group, Counc. Sci. Ind. Res.,
Pretoria, 0001, S. Afr.
SOURCE: Chromatographia (1986), 21(5), 265-8
CODEN: CHRGB7; ISSN: 0009-5893
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple gas chromatog. system was developed for the rapid on-line anal. of light **Fischer-Tropsch** products. This involves a single chromatograph fitted with 2 columns, a **porous-layer** open-tubular column coated with KCl-deactivated alumina and a packed Poropak-Q column. The capillary column seps. the 16 most common C1-4 hydrocarbons and permits a reasonable anal. of the hydrocarbons in the C5-7 range. The packed column is used for the sepn. of CH₄, CO, CO₂, H₂O, and MeOH. Retention characteristics for the anal. on the capillary column are presented. The total anal. cycle is 30 min.

=> s hydrocarbon? synthesis or Fischer Tropsch

```
299241 HYDROCARBON?
811400 SYNTHESIS
      1 SYNTHESISES
41064 SYNTHESES
834424 SYNTHESIS
      (SYNTHESIS OR SYNTHESISES OR SYNTHESES)
      964 HYDROCARBON? SYNTHESIS
          (HYDROCARBON? (W) SYNTHESIS)
13109 FISCHER
      16 FISCHERS
13113 FISCHER
      (FISCHER OR FISCHERS)
4083 TROPSCH
4032 FISCHER TROPSCH
      (FISCHER (W) TROPSCH)
L1      4694 HYDROCARBON? SYNTHESIS OR FISCHER TROPSCH
```

=> s l1 and layer?

```
926875 LAYER?
L2      99 L1 AND LAYER?
```

=> s minimi? (3a) selectivity

```
78307 MINIMI?
117116 SELECTIVITY
8766 SELECTIVITIES
122004 SELECTIVITY
      (SELECTIVITY OR SELECTIVITIES)
L3      52 MINIMI? (3A) SELECTIVITY
```

=> s minimi? C1- C4

```
78307 MINIMI?
121241 C1
36463 C4
L4      0 MINIMI? C1- C4
          (MINIMI? (W) C1 (W) C4)
```

=> d his

(FILE 'HOME' ENTERED AT 12:51:48 ON 14 JUN 2000)

```
FILE 'CAPLUS' ENTERED AT 12:52:24 ON 14 JUN 2000
L1      4694 S HYDROCARBON? SYNTHESIS OR FISCHER TROPSCH
L2      99 S L1 AND LAYER?
L3      52 S MINIMI? (3A) SELECTIVITY
L4      0 S MINIMI? C1- C4
```

=> s l2 and l3

```
L5      0 L2 AND L3
```

=> s minimi? methane

78307 MINIMI?
94543 METHANE
2359 METHANES
95656 METHANE
(METHANE OR METHANES)
L6 2 MINIMI? METHANE
(MINIMI? (W) METHANE)

=> s methane selectivity

94543 METHANE
2359 METHANES
95656 METHANE
(METHANE OR METHANES)
117116 SELECTIVITY
8766 SELECTIVITIES
122004 SELECTIVITY
(SELECTIVITY OR SELECTIVITIES)
L7 134 METHANE SELECTIVITY
(METHANE (W) SELECTIVITY)

=> s 12 and 17

L8 0 L2 AND L7

=> s methane (3a) selectivity

94543 METHANE
2359 METHANES
95656 METHANE
(METHANE OR METHANES)
117116 SELECTIVITY
8766 SELECTIVITIES
122004 SELECTIVITY
(SELECTIVITY OR SELECTIVITIES)
L9 600 METHANE (3A) SELECTIVITY

=> s 12 and 19

L10 1 L2 AND L9

=> d 110 ibib ab

L10 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1980:197849 CAPLUS
DOCUMENT NUMBER: 92:197849
TITLE: **Fischer-Tropsch** synthesis over
freshly reduced iron-ruthenium alloys
AUTHOR(S): Ott, G. L.; Fleisch, T.; Delgass, W. N.
CORPORATE SOURCE: Sch. Chem. Eng., Purdue Univ., West Lafayette, IN,
47907, USA
SOURCE: J. Catal. (1979), 60(3), 394-403
CODEN: JCTLA5; ISSN: 0021-9517
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Surface anal. of unsupported FeRu alloys was accomplished using XPS (XPS) and secondary ion mass spectrometry (SIMS) after the catalysts were reduced in flowing H₂ at 673 K for 4 h in a pretreatment chamber and introduced directly an ultrahigh vacuum instrument without exposure to the air. XPS lines show Fe and Ru to be metallic after redn. Quant. anal. of the first several **layers** using XPS shows enrichment of the surface region in Fe as expected. Anal. of the secondary ion emission as a function of compn. shows a marked decrease in the Ru⁺ emission from 97Ru3Fe compared to the pure Ru catalyst, suggesting alteration of the electronic properties of the surface upon addn. of a small amt. of Fe. Semiquant. anal. of the uppermost **layer** using SIMS suggests greater Fe enrichment in the 1st **layer** than the av. enrichment calcd. from XPS for the 1st several **layers**. The initial activity and selectivity of the catalysts for **Fischer-Tropsch** synthesis were measured at 1 atm and 573 K in 3.3H₂ + CO at conversions below 3%. **Selectivity to methane** decreases through a min. with increasing Fe content in the 1st **layer**. High propylene and ethylene yields were found for the alloy catalysts. A marked increase in the selectivity of the catalysts to propylene and, particularly, ethylene for 3Fe97Ru compared to pure Ru correlates with the sharp changes in SIMS yields.

=> d his

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FILE 'CAPLUS' ENTERED AT 12:52:24 ON 14 JUN 2000

L1 4694 S HYDROCARBON? SYNTHESIS OR FISCHER TROPSCH
L2 99 S L1 AND LAYER?
L3 52 S MINIMI? (3A) SELECTIVITY
L4 0 S MINIMI? C1- C4
L5 0 S L2 AND L3
L6 2 S MINIMI? METHANE
L7 134 S METHANE SELECTIVITY
L8 0 S L2 AND L7
L9 600 S METHANE (3A) SELECTIVITY
L10 1 S L2 AND L9

=> s 12 and porous

128215 POROUS
L11 3 L2 AND POROUS

=> d l11 ibib ab

L11 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1993:127939 CAPLUS
DOCUMENT NUMBER: 118:127939
TITLE: An Auger electron spectroscopy study of the
activation

of iron **Fischer-Tropsch** catalysts.
 II. Carbon monoxide activation
 AUTHOR(S): Sault, Allen G.; Datye, Abhaya K.
 CORPORATE SOURCE: Fuel Sci. Dep., Sandia Natl. Lab., Albuquerque, NM,
 87185, USA
 SOURCE: J. Catal. (1993), 140(1), 136-49
 CODEN: JCTLA5; ISSN: 0021-9517
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Activation procedures can have a dramatic effect on the activity of
 Fe-based catalysts for **Fischer-Tropsch** (F-T)
 synthesis; CO conversion over a 100:3:0.2 (wt.) Fe-Cu-K catalyst can vary
 nearly by a factor of 3, depending on activation treatment. In contrast,
 a 100:5:4.4:25 (wt.) Fe-Cu-K-SiO₂ catalyst displays little dependence of
 F-T activity on activation treatment. An ultra-high vacuum surface anal.
 chamber coupled to an atm. reactor has been used to measure the surface
 compn. of these catalysts after activation in CO at 280.degree., while
 transmission electron microscopy (TEM) and BET surface area measurements
 have been used to investigate catalyst morphol. CO activation of the
 latter catalyst at 280.degree. results in partial redn. of Fe to a mixt.
 of Fe₃O₄ and Fe₃O₄, and an overall surface compn. very similar to that
 obtained by H activation at 220 or 280.degree., consistent with the
 invariance of F-T activity with activation treatment for this catalyst.
 Activation of the former catalyst in CO at 280.degree. results in the
 formation of Fe carbide particles, growth of graphitic carbon
 (Cg) filaments, and formation of a thick, **porous**, Cg
layer covering the carbide particles. Differences in F-T activity
 between the hydrogen- and CO-activated former catalyst are discussed in
 terms of surface compn. and catalyst morphol. The difference in
 sensitivity of the two catalysts to activation conditions is related to
 differences in the extent of redn. of the catalysts.

=> d l11 ibib ab 2-3

L11 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1991:125731 CAPLUS
 DOCUMENT NUMBER: 114:125731
 TITLE: Process for the preparation of surface-impregnated
 dispersed cobalt metal catalysts
 INVENTOR(S): Mauldin, Charles H.; Riley, Kenneth L.
 PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA
 SOURCE: U.S., 6 pp. Cont.-in-part of U.S. Ser. No. 72,517,
 abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 4977126	A	19901211	US 1988-270596	19881114
US 4962078	A	19901009	US 1988-252215	19881003
CA 2012682	AA	19910921	CA 1990-2012682	19900321
AU 623756	B2	19920521	AU 1990-52208	19900327

AU 9052208	A1	19911003		
JP 03293036	A2	19911224	JP 1990-91933	19900406
US 5128377	A	19920707	US 1990-513372	19900423
EP 453674	A1	19911030	EP 1990-304549	19900426
EP 453674	B1	19940629		
R: BE, DE, FR, GB, IT, NL, SE				
AU 634019	B2	19930211	AU 1991-70104	19910131
AU 9170104	A1	19920813		
US 5545674	A	19960813	US 1995-377293	19950124
PRIORITY APPLN. INFO.:			US 1987-46649	19870507
			US 1987-72517	19870713
			US 1988-252215	19881003
			US 1989-310258	19890213
			US 1991-667993	19910312
			US 1992-881935	19920511
			US 1993-32916	19930318
			US 1994-243436	19940513

AB A process for the prepn. of **Fischer-Tropsch** catalysts is described in which a catalytically effective amt. of Co is impregnated and dispersed as a film or **layer** on the peripheral outer surface of a particulate **porous** inorg. oxide support, esp. TiO₂. The catalysts are prepd. by spraying a bed of the fluidized particulate support particles with a liq. contg. a dispersed or dissolved Co metal compd. upon the support particles. The operation is performed at specified operating conditions.

L11 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1986:507671 CAPLUS
 DOCUMENT NUMBER: 105:107671
 TITLE: On-line gas chromatographic analysis of light **Fischer-Tropsch** synthesis products
 AUTHOR(S): Snel, R.
 CORPORATE SOURCE: Chem. Eng. Res. Group, Counc. Sci. Ind. Res., Pretoria, 0001, S. Afr.
 SOURCE: Chromatographia (1986), 21(5), 265-8
 CODEN: CHRGB7; ISSN: 0009-5893
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A simple gas chromatog. system was developed for the rapid on-line anal. of light **Fischer-Tropsch** products. This involves a single chromatograph fitted with 2 columns, a **porous-layer** open-tubular column coated with KCl-deactivated alumina and a packed Poropak-Q column. The capillary column seps. the 16 most common C1-4 hydrocarbons and permits a reasonable anal. of the hydrocarbons in the C5-7 range. The packed column is used for the sepn. of CH₄, CO, CO₂, H₂O, and MeOH. Retention characteristics for the anal. on the capillary column are presented. The total anal. cycle is 30 min.

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,JPAB,EPAB,DWPI	118 and (fischer tropesch or hydrocarbon synthesis)	0	<u>L19</u>
USPT,JPAB,EPAB,DWPI	multilayer catalyst or multi layer catalyst	62	<u>L18</u>
USPT,JPAB,EPAB,DWPI	116 and layer\$	11	<u>L17</u>
USPT,JPAB,EPAB,DWPI	115 and (pore size)	46	<u>L16</u>
USPT,JPAB,EPAB,DWPI	113 and (cobalt or ruthenium or iron or rhenium or osmium)	300	<u>L15</u>
USPT,JPAB,EPAB,DWPI	first pore surface area	0	<u>L14</u>
USPT,JPAB,EPAB,DWPI	fischer tropesch catalyst	409	<u>L13</u>
USPT,JPAB,EPAB,DWPI	hydrocarbon\$ synthesis or 11	4202	<u>L12</u>
USPT,JPAB,EPAB,DWPI	11 and interfacial layer	0	<u>L11</u>
USPT,JPAB,EPAB,DWPI	11 and interficial layer	0	<u>L10</u>
USPT,JPAB,EPAB,DWPI	16 and layer	9	<u>L9</u>
USPT,JPAB,EPAB,DWPI	16 and residence time	2	<u>L8</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L7</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L6</u>
USPT,JPAB,EPAB,DWPI	synthesis gas or (carbon monoxide and hydrogen)	35007	<u>L5</u>
USPT,JPAB,EPAB,DWPI	12 and (synthesis gas or carbon monoxide and hydrogen)	0	<u>L4</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L3</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L2</u>
DWPI,USPT,EPAB,JPAB	fischer tropesch	3648	<u>L1</u>

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,JPAB,EPAB,DWPI	116 and layer\$	11	<u>L17</u>
USPT,JPAB,EPAB,DWPI	115 and (pore size)	46	<u>L16</u>
USPT,JPAB,EPAB,DWPI	113 and (cobalt or ruthenium or iron or rhenium or osmium)	300	<u>L15</u>
USPT,JPAB,EPAB,DWPI	first pore surface area	0	<u>L14</u>
USPT,JPAB,EPAB,DWPI	fischer tropesch catalyst	409	<u>L13</u>
USPT,JPAB,EPAB,DWPI	hydrocarbon\$ synthesis or 11	4202	<u>L12</u>
USPT,JPAB,EPAB,DWPI	11 and interfacial layer	0	<u>L11</u>
USPT,JPAB,EPAB,DWPI	11 and interficial layer	0	<u>L10</u>
USPT,JPAB,EPAB,DWPI	16 and layer	9	<u>L9</u>
USPT,JPAB,EPAB,DWPI	16 and residence time	2	<u>L8</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L7</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L6</u>
USPT,JPAB,EPAB,DWPI	synthesis gas or (carbon monoxide and hydrogen)	35007	<u>L5</u>
USPT,JPAB,EPAB,DWPI	12 and (synthesis gas or carbon monoxide and hydrogen)	0	<u>L4</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L3</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L2</u>
DWPI,USPT,EPAB,JPAB	fischer tropesch	3648	<u>L1</u>

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,JPAB,EPAB,DWPI	16 and layer	9	<u>L9</u>
USPT,JPAB,EPAB,DWPI	16 and residence time	2	<u>L8</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L7</u>
USPT,JPAB,EPAB,DWPI	13 and 15	19	<u>L6</u>
USPT,JPAB,EPAB,DWPI	synthesis gas or (carbon monoxide and hydrogen)	35007	<u>L5</u>
USPT,JPAB,EPAB,DWPI	12 and (synthesis gas or carbon monoxide and hydrogen)	0	<u>L4</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L3</u>
USPT,JPAB,EPAB,DWPI	11 and (porous structure or porous catalyst or porous support)	33	<u>L2</u>
DWPI,USPT,EPAB,JPAB	fischer tropsch	3648	<u>L1</u>